









g1746 Retreat at Amherst Developed Conditions-Southern Portion of the Project Prepared by {enter your company name here} HydroCAD® 10.00 s/n 04481 © 2011 HydroCAD Software Solutions LLC

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Page 2

Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
3.320	30	Brush, Good, HSG A (1S, 8S, 13S, 14S, 15S, 16S, 17S)
57.950	30	Woods, Good, HSG A (1S, 8S, 11S, 13S, 14S, 15S, 16S, 17S, 19S, 20S, 21S, 23S)
2.580	35	Easement (15S)
17.510	39	>75% Grass cover, Good, HSG A (3S, 5S, 9S, 11S, 21S, 23S)
0.990	48	Brush, Good, HSG B (1S, 8S)
6.360	55	Woods, Good, HSG B (1S, 8S)
2.990	61	>75% Grass cover, Good, HSG B (3S, 9S)
2.500	98	Paved parking, HSG A (1S, 3S, 5S, 9S, 11S, 21S, 23S)
0.320	98	Paved parking, HSG B (3S, 9S)
3.300	98	Paved roads w/curbs & sewers, HSG A (3S, 5S, 9S, 11S, 21S, 23S)
0.350	98	Paved roads w/curbs & sewers, HSG B (3S, 9S)
1.810	98	Roofs, HSG A (3S, 5S, 9S, 11S, 21S, 23S)
0.310	98	Roofs, HSG B (3S, 9S)
100.290	40	TOTAL AREA

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Page 3

Soil Listing (all nodes)

Area	a Soil	Subcatchment
(acres)) Group	Numbers
86.390) HSG A	15, 35, 55, 85, 95, 115, 135, 145, 155, 165, 175, 195, 205, 215, 235
11.320) HSG B	1S, 3S, 8S, 9S
0.000) HSG C	
0.000) HSG D	
2.580	Other	15S
100.290)	TOTAL AREA

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchmer Numbers
17.510	2.990	0.000	0.000	0.000	20.500	>75% Grass cover, Good	3S,
							5S,
							9S,
							11
							S,
							21
							S,
							23
							S
0.000	0.000	0.000	0.000	2.580	2.580	Easement	15
							S
2.500	0.320	0.000	0.000	0.000	2.820	Paved parking	1S,
							35,
							58,
							98,
							11
							S,
							21
							S,
				,			23
							S
1.810	0.310	0.000	0.000	0.000	2.120	Roofs	3S,
							5S,
							9S,
							11
							S,
							21
							S,
							23
							S
3.300	0.350	0.000	0.000	0.000	3.650	Paved roads w/curbs & sewers	3S,

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Page 5

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchmer Numbers
3.320	0.990	0.000	0.000	0.000	4.310	Brush, Good	1S,
							8S,
							13
							S,
							14
							S,
							15
							S,
							16
							S,
							17
							S
57.950	6.360	0.000	0.000	0.000	64.310	Woods, Good	1S,
							8S,
							11
							S,
							13
							S,
							14
							S,
							15
							S,
							16
							S,
							17
							S,
							19
							S,
							20
							S,
							21
							S,
							23 S
86.390	11.320	0.000	0.000	2.580	100.290	TOTAL AREA	3

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Page 6

Pipe Listing (all nodes)

Line#	Node In-Invert		Out-Invert	Length	Slope	n	Diam/Width	Height	Inside-Fill
 	Number	(feet)	(feet)	(feet)	(ft/ft)		(inches)	(inches)	(inches)
1	2R	384.00	383.00	60.0	0.0167	0.013	96.0	48.0	0.0
2	18R	472.00	471.00	60.0	0.0167	0.013	24.0	0.0	0.0
3	4P	399.00	398.00	30.0	0.0333	0.013	12.0	0.0	0.0
4	6P	423.00	422.00	70.0	0.0143	0.013	12.0	0.0	0.0
5	10P	431.00	430.00	55.0	0.0182	0.013	12.0	0.0	0.0
6	12P	361.00	360.00	40.0	0.0250	0.013	12.0	0.0	0.0
7	24P	306.00	304.30	168.0	0.0101	0.013	12.0	0.0	0.0

Reach 2R: Box Culvert

Page 7

Time span=3.00-40.00 hrs, dt=0.05 hrs, 741 points Runoff by SCS TR-20 method, UH=SCS Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor-Ind+1	rans method - Pond routing by Stor-Ind method
Subcatchment 1S: Area 20 Flow Length=3,450'	Runoff Area=32.630 ac 0.43% Impervious Runoff Depth=0.00" Slope=0.0340 '/' Tc=164.3 min CN=33 Runoff=0.00 cfs 0.000 af
Subcatchment 3S: Area 22 Flow Length=743'	Runoff Area=5.540 ac 31.59% Impervious Runoff Depth=0.51" Slope=0.1000 '/' Tc=12.1 min CN=65 Runoff=1.94 cfs 0.234 af
Subcatchment 5S: Area 19 Flow Length=700'	Runoff Area=5.380 ac 22.49% Impervious Runoff Depth=0.13" Slope=0.0900 '/' Tc=16.9 min CN=52 Runoff=0.12 cfs 0.057 af
Subcatchment 8S: Area 21 Flow Length=800'	Runoff Area=12.300 ac 0.00% Impervious Runoff Depth=0.00" Slope=0.0750 '/' Tc=30.6 min CN=37 Runoff=0.00 cfs 0.000 af
Subcatchment 9S: Area 23 Flow Length=1,100'	Runoff Area=4.850 ac 34.43% Impervious Runoff Depth=0.51" Slope=0.0350 '/' Tc=27.9 min CN=65 Runoff=1.27 cfs 0.205 af
Subcatchment 11S: Area 17 Flow Length=1,100'	Runoff Area=8.740 ac 20.14% Impervious Runoff Depth=0.07" Slope=0.0800 '/' Tc=27.7 min CN=49 Runoff=0.09 cfs 0.054 af
Subcatchment 13S: Area 13 Flow Length=250'	Runoff Area=2.100 ac
Subcatchment 14S: Area 14 Flow Length=250	Runoff Area=0.470 ac 0.00% Impervious Runoff Depth=0.00" Slope=0.1200 '/' Tc=11.8 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment 15S: Area 10 Flow Length=1,200'	Runoff Area=13.190 ac 0.00% Impervious Runoff Depth=0.00" Slope=0.1000 '/' Tc=43.8 min CN=31 Runoff=0.00 cfs 0.000 af
Subcatchment 16S: Area 24 Flow Length=350'	Runoff Area=0.970 ac 0.00% Impervious Runoff Depth=0.00" Slope=0.0250 '/' Tc=33.7 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment 17S: Area 25 Flow Length=600	Runoff Area=2.730 ac
Subcatchment 19S: Area 28 Flow Length=360	Runoff Area=3.010 ac
Subcatchment 20S: Area 27 Flow Length=400'	Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=0.00" Slope=0.0250 '/' Tc=37.5 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment 21S: Area 26 Flow Length=860	Runoff Area=3.020 ac 30.13% Impervious Runoff Depth=0.22" Slope=0.0200 '/' Tc=38.1 min CN=56 Runoff=0.17 cfs 0.055 af
Subcatchment 23S: Area 12 Flow Length=700	Runoff Area=4.260 ac 27.00% Impervious Runoff Depth=0.15" Slope=0.1000 '/' Tc=15.6 min CN=53 Runoff=0.14 cfs 0.053 af

96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=0.00 cfs 0.000 af

Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af

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Reach 7R: Natural Channel Avg. Flow Depth=0.00' Max Vei=0.00 fps Inflow=0.00 cfs 0.000 af n=0.040 L=800.0' S=0.0725 '/' Capacity=169.95 cfs Outflow=0.00 cfs 0.000 af

Reach 18R: Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af 24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Basin 5 Peak Elev=401.33' Storage=10,177 cf Inflow=1.94 cfs 0.234 af

Outflow=0.00 cfs 0.000 af

Pond 6P: Basin 4 Peak Elev=422.96' Storage=2,503 cf Inflow=0.12 cfs 0.057 af

Outflow=0.00 cfs 0.000 af

Pond 10P: Basin 9 Peak Elev=431.49' Storage=8,909 cf Inflow=1.27 cfs 0.205 af

Outflow=0.00 cfs 0.000 af

Pond 12P: Basin 8 Peak Elev=360.25' Storage=2,362 cf Inflow=0.09 cfs 0.054 af

Outflow=0.00 cfs 0.000 af

Pond 22P: Basin 6 Peak Elev=456.46' Storage=2,409 cf Inflow=0.17 cfs 0.055 af

Outflow=0.00 cfs 0.000 af

Pond 24P: Basin 7 Peak Elev=306.02' Storage=2,303 cf Inflow=0.14 cfs 0.053 af

Outflow=0.00 cfs 0.000 af

Total Runoff Area = 100.290 ac Runoff Volume = 0.658 af Average Runoff Depth = 0.08" 91.43% Pervious = 91.700 ac 8.57% Impervious = 8.590 ac

Page 9

Summary for Subcatchment 1S: Area 20

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

_	Area (ac)	CN	N Desc	ription			
	1.3	320	3	0 Brus	h, Good, F	ISG A		
	0.4	440	4	B Brus	h, Good, F	ISG B		
	27.0	650	3	0 Woo	ds, Good,	HSG A		
	3.0	080	5	5 Woo	ds, Good,	HSG B		
	0.1	140	9	8 Pave	ed parking,	HSG A		
	32.	630	3	3 Weig	hted Aver	age		
	32.4	490		99.5	7% Pervio	us Area		
	0.	140		0.43	% Impervi	ous Area		
	Tc	Leng	th	Slope	Velocity	Capacity	Description	
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	164.3	3,45	50	0.0340	0.35		Lag/CN Method,	

Summary for Subcatchment 3S: Area 22

Runoff = 1.94 cfs @ 12.22 hrs, Volume= 0.234 af, Depth= 0.51"

Area ((ac) C	N De <u>s</u>	cription								
2.0	000 3	39 >75	75% Grass cover, Good, HSG A								
1.1	790 (31 >75	% Grass co	over, Good	, HSG B						
0.4	400 9	98 Pav	ed roads w	/curbs & se	ewers, HSG A						
0.3	290 9	98 Pav	ed roads w	/curbs & se	ewers, HSG B						
0.3	330 9	98 Pav	ed parking,	, HSG A							
0.3	200 9	98 Pav	ed parking,	, HSG B							
0.3	340 9	98 Roc	fs, HSG A								
0.	<u> 190 </u>	98 <u>Roc</u>	fs, HSG B			<u> </u>					
5.	540	35 Wei	ghted Aver	age							
3.	790	68.4	1% Pervio	us Area							
1.	750	31.5	59% Imper	vious Area							
Tc	Length	Slope		Capacity	Description						
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		<u> </u>					
12.1	743	0.1000	1.03		Lag/CN Method,						

Summary for Subcatchment 5S: Area 19

Runoff = 0.12 cfs @ 12.65 hrs, Volume= 0.057 af, Depth= 0.13"

_	Area	(ac) (ON Des	Description							
	4.	170	39 >75	% Grass co	over, Good	, HSG A					
	0.	680	98 Pav	ed roads w	curbs & se	ewers, HSG A					
	0.	480	98 Pav	ed parking,	HSG A						
_	0.	0 <u>50</u>	98 Roo	fs, HSG A							
	5.	380	52 Wei	ghted Aver	age						
	4.	170	77.5	1% Pervio	us Area						
	1.	210	22.4	9% Imperv	ious Area						
	=										
	Tc	Length	•	Velocity	Capacity	Description					
_	<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	16.9	700	0.0900	0.69		Lag/CN Method.					

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Page 12

Summary for Subcatchment 8S: Area 21

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

Area (ac)	CN	Desc	ription			
0.770	30	Brus	h, Good, H	ISG A		
0.550	48	Brus	h, Good, F	ISG B		
7.700	30	Woo	ds, Good,	HSG A		
3.280	55	Woo	ds, Good,	HSG B		
12.300	37	Weig	hted Aver	age		
12.300		100.0	00% Pervi	ous Area		
				_		
Tc Len	gth	Slope	Velocity	Capacity	Description	
(min) (fe	et)	(ft/ft)	(ft/sec)	(cfs)		
30.6	300 (0.0750	0.44		Lag/CN Method,	

Summary for Subcatchment 9S: Area 23

Runoff = 1.27 cfs @ 12.50 hrs, Volume= 0.205 af, Depth= 0.51"

Area (ac) (N De	scription							
1.9	980	39 >7	75% Grass cover, Good, HSG A							
1.2	200	61 >7	5% Grass c	over, Good	, HSG B					
0.6	086	98 Pa	ved roads w	/curbs & se	ewers, HSG A					
0.0	060	98 Pa	ved roads w	/curbs & se	ewers, HSG B					
0.3	350	98 P a	ved parking	, HSG A						
0.1	120	98 Pa	ved parking	, HSG B						
0.3	340	98 Ro	ofs, HSG A							
0.1	120	98 R c	ofs, HSG B							
4.8	850	65 W	eighted Ave	rage						
3.1	180	65	.57% Pervio	us Area						
1.6	670	34	.43% Imper	vious Area						
Tc	Length	•	-	Capacity	Description					
<u>(min)</u>	(feet)	(ft/f) (ft/sec)	(cfs)		<u> </u>				
27.9	1,100	0.035	0.66		Lag/CN Method,					

Summary for Subcatchment 11S: Area 17

Runoff = 0.09 cfs @ 15.03 hrs, Volume= 0.054 af, Depth= 0.07"

	<u> 4rea (</u>	ac)	CN	Desc	ription			
	5.0	060	39	>75%	Grass co	over, Good,	HSG A	
	0.6	360	98	Pave	d roads w	/curbs & se	ewers, HSG A	
	0.5	590	98	Pave	d parking,	HSG A		
	0.8	510	98	Roofs	s, HSG A			
	1.9	920	30	Woo	ds, Good,	HSG A		
	8.1	740	49	Weig	hted Aver	age		
	6.9	980		79.86	8% Pervio	us Area		
	1.7	760		20.14	1% Imperv	ious Area		
	Tc	Length	า	Slope	Velocity	Capacity	Description	
(r	min)	(feet)	(ft/ft)	(ft/sec)	(cf <u>s)</u>		
2	27.7	1,100	0 0	0.080.0	0.66		Lag/CN Method,	

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Page 15

Summary for Subcatchment 13S: Area 13

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	_Area	(ac)	CN	Desc	ription			
	0.200 30 Brush, Good, HSG A							
	1.	900	30	Woo	ds, Good,	HSG A		
	2.	100	30	Weig	hted Aver	age		
	2.	100		100.0	00% Pervi	ous Area		
	Tc	Length	ı SI	lope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	20.4	250	0.0	400	0.20		Lag/CN Method,	

Summary for Subcatchment 14S: Area 14

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

_	Area	(ac)	CN	Desc	ription		
	0.140 30 Brush, Good, HSG A						
_	0.	330	30	Woo	ds, Good,	HSG A	
	0.	470	30	Weig	hted Aver	age	
	0.	470		100.0	00% Pervi	ous Area	
	Tc	Length	ı SI	lope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	11.8	250	0.1	200	0.35		Lag/CN Method,

Summary for Subcatchment 15S: Area 10

[45] Hint: Runoff=Zero

Runoff =

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac)	CN	Desc	ription			
	0.	490	30	Brus	h, Good, F	ISG A		
*	2.	580	35	Ease	ement			
	<u> </u>	120	30	Woo	ds, Good,	HSG A		
	13.190 31			-	hted Aver	~		
	13.	190		100.0	00% Pervi	ous Area		
	_	1	_	SI	M-14.	0	Description	
		Length		Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	43.8	1,200	0.	1000	0.46		Lag/CN Method,	

Summary for Subcatchment 16S: Area 24

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac) (ON Des	cription			
_	0.	180	30 Bru	sh, Good, l	HSG A		
	0.	790	30 Wo	ods, Good,	HSG A		
_	0.	970	30 We	ighted Avei	rage		
	0.	970	100	.00% Pervi	ous Area		
	Tc	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	33.7	350	0.0250	0.17		Lag/CN Method.	

Summary for Subcatchment 17S: Area 25

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	<u>Are</u> a	(ac)	CN	Desc	ription			
	0.	220	30	Brus	h, Good, F	ISG A		
	2.	510	30	Woo	ds, Good,	HSG A		
	2.	730	30	Weig	hted Aver	age		
	2.	730		100.0	00% Pervi	ous Area		
	Тс	Length	ı S	Slope	Velocity	Capacity	Description	
_	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)		
	45.2	600	0.0	0330	0.22		Lag/CN Method,	

Summary for Subcatchment 19S: Area 28

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

_	Area	(ac) C	N Des	cription			
	3.	.010	30 Woo	ds, Good,	HSG A		
	3.	.010	100.	00% Pervi	ous Area		
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
_	23.3	360	0.0550	0.26		Lag/CN Method,	

Summary for Subcatchment 20S: Area 27

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

	Area	(ac)	CN Des	scription		
	1.	100	30 Wo	ods, Good,	HSG A	
	1.	100	100	0.00% Pervi	ious Area	
	-		01		0:	Depart the
	Tc	Length		•	Capacity	Description
_	<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	37.5	400	0.0250	0.18		Lag/CN Method,

Summary for Subcatchment 21S: Area 26

Runoff = 0.17 cfs @ 12.83 hrs, Volume= 0.055 af, Depth= 0.22"

	Area ((ac)	CN	N Desc	ription			
	1.	960	39	>75%	6 Grass co	over, Good,	HSG A	
	0.	490	98	B Pave	ed roads w	/curbs & se	ewers, HSG A	
	0.210 98 Paved parking, HSG A							
	0.210 98 Roofs, HSG A							
_	0.	150	30) Woo	ds, Good,	HSG A		
	3.	020	56	6 Weig	hted Aver	age		
	2.	110		69.8	7% Pervio	us Area		
	0.	910		30.13	3% Imperv	ious Area		
	Tc	Leng	th	Slope	Velocity	Capacity	Description	
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	38.1	86	03	0.0200	0.38		Lag/CN Method	

Summary for Subcatchment 23S: Area 12

Runoff = 0.14 cfs @ 12.57 hrs, Volume= 0.053 af, Depth= 0.15"

	Area ((ac)	CN	Desc	ription					
	0.	0.770 30 Woods, Good, HSG A								
2.340 39 >75% Grass cover, Good, HSG A										
	0.	390	98	Pave	ed roads w	/curbs & se	ewers, HSG A			
	0.	400	98	Pave	ed parking,	HSG A				
	0.	360	98	Roof	s, HSG A					
	4.	260	53	Weig	hted Aver	age				
	3.	110		73.00	0% Pervio	us Area				
	1.	150		27.00	0% Imperv	ious Area				
	Tc	Lengi	th	Slope	Velocity	Capacity	Description			
_	<u>(min)</u>	(fee	t)	(ft/ft)	(ft/sec)	(cfs)				
	15.6	70	0	0.1000	0.75		Lag/CN Method,			

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Page 24

Summary for Reach 2R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 43.550 ac, 7.12% Impervious, Inflow Depth = 0.00" for 2-Year event

Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs Average Depth at Peak Storage= 0.00' Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe n= 0.013 Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 384.00', Outlet Invert= 383.00'



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Page 25

Summary for Reach 7R: Natural Channel

[81] Warning: Exceeded Pond 12P by 23.00' @ 3.00 hrs

Inflow Area = 69.440 ac, 9.40% Impervious, Inflow Depth = 0.00" for 2-Year event

Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs Average Depth at Peak Storage= 0.00' Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 169.95 cfs

6.00' x 2.00' deep channel, n= 0.040 Side Slope Z-value= 0.5 '/' Top Width= 8.00' Length= 800.0' Slope= 0.0725 '/' Inlet Invert= 383.00', Outlet Invert= 325.00'

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Page 26

Summary for Reach 18R: Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event

Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

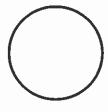
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs Average Depth at Peak Storage= 0.00' Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe n= 0.013 Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 472.00', Outlet Invert= 471.00'



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Page 27

Summary for Pond 4P: Basin 5

Inflow Area = 5.540 ac, 31.59% Impervious, Inflow Depth = 0.51" for 2-Year event

Inflow 1.94 cfs @ 12.22 hrs, Volume= 0.234 af

Outflow 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

3.00 hrs, Volume= Primary 0.00 cfs @ 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 401.33' @ 24.75 hrs Surf.Area= 8,208 sf Storage= 10,177 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

<u>Volume</u>	lnve	rt Avail.Sto	rage Storage	Description_	
#1	400.0	0' 57,9	00 cf Custom	0 cf Custom Stage Data (Prismatic) Listed below (Reca	
Elevation	on -	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
400.0	00	7,055	0	0	
406.0	00	12,245	57,900	57,900	
		·		·	
Device	Routing	Invert	Outlet Device	s _	
#1	Primary	405.00'	10.0' long x	10.0' breadth B	road-Crested Rectangular Weir
	•		Head (feet) (0.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coef. (Englist	h) 2.49 2.56 2.	.70 2.69 2.68 2.69 2.67 2.64
#2	Primary	399.00'	12.0" Round	Culvert L= 30	0.0' Ke= 0.500
	-		Inlet / Outlet I	nvert= 399.00' /	398.00' S= 0.0333 '/' Cc= 0.900
			n= 0.013, Flo	ow Area= 0.79 s	f
#3	Device 2	404.00	24.0" x 24.0"	Horiz. Orifice/G	Grate C= 0.600

Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

⁻¹⁼Broad-Crested Rectangular Weir (Controls 0.00 cfs)

⁻²⁼Culvert (Passes 0.00 cfs of 2.67 cfs potential flow)
-3=Orifice/Grate (Controls 0.00 cfs)

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Page 28

Summary for Pond 6P: Basin 4

Inflow Area = 5.380 ac, 22.49% Impervious, Inflow Depth = 0.13" for 2-Year event

Inflow 0.12 cfs @ 12.65 hrs, Volume= 0.057 af

Outflow 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

3.00 hrs, Volume= Primary 0.00 cfs @ 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 422.96' @ 25.00 hrs Surf.Area= 2,969 sf Storage= 2,503 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	lnv	ert Avail.Sto	rage Storage	Description	
#1	422.	00' 67,8	16 cf Custom	Stage Data (Pr	ismatic) Listed below (Recalc)
Elevatio		Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
422.0	-	2,265	0	0	
424.0	00	3,738	6,003	6,003	
426.0	00	5,515	9,253	15,256	
428.0	00	7,545	13,060	28,316	
430.0	00	9,815	17,360	45,676	
432.0	00	12,325	22,140	67,816	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	431.00'	10.0' long x	10.0' breadth Br	oad-Crested Rectangular Weir
	·		Head (feet) (0.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
#2	Primary	423.00'	12.0" Round	h) 2.49 2.56 2. I Culvert L= 70 Invert= 423.00' /	

n= 0.013. Flow Area= 0.79 sf

Limited to weir flow at low heads

24.0" x 24.0" Horiz. Orifice/Grate C= 0.600

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=422.00' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

430.00

Device 2

#3

2=Culvert (Controls 0.00 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

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Page 29

Summary for Pond 10P: Basin 9

Inflow Area = 4.850 ac, 34.43% Impervious, Inflow Depth = 0.51" for 2-Year event

Inflow = 1.27 cfs @ 12.50 hrs, Volume= 0.205 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 431.49' @ 25.65 hrs Surf.Area= 7,016 sf Storage= 8,909 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inve	ert <u>Avail.Sto</u>	rage Storage	Description	
#1	430.0	0' 88,95	50 cf Custom	Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio	on	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
430.0	00	4,910	0	0	
432.0	00	7,730	12,640	12,640	
434.0	0	10,890	18,620	31,260	
436.0		14,365	25,255	56,515	
438.0	00	18,070	32,435	88,950	
Device	Routing	invert	Outlet Device	es	
#1	Primary	437.00'	10.0' long x	10.0' breadth Br	oad-Crested Rectangular Weir
	•				0.80 1.00 1.20 1.40 1.60
			, -	•	70 2.69 2.68 2.69 2.67 2.64
#2	Primary	431.00'		Culvert L= 55.	
					430.00' S= 0.0182 '/' Cc= 0.900
			•	ow Area= 0.79 sf	_
#3	Device 2	436.00'	24.0" x 24.0"	Horiz. Orifice/G	irate C= 0.600

Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=430.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Controls 0.00 cfs)

¹⁻³⁼Orifice/Grate (Controls 0.00 cfs)

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Page 30

Summary for Pond 12P: Basin 8

Inflow Area =

8.740 ac, 20.14% Impervious, Inflow Depth = 0.07" for 2-Year event

Inflow =

0.09 cfs @ 15.03 hrs, Volume=

0.054 af 0.000 af, Atten= 100%, Lag= 0.0 min

Outflow = Primary =

0.00 cfs @ 0.00 cfs @

3.00 hrs, Volume= 3.00 hrs, Volume=

0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 360.25' @ 25.60 hrs Surf.Area= 9,706 sf Storage= 2,362 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inve	rt Avail.Sto	rage Storage	e Description			
#1	360.0	0' 68,7	00 cf Custon	m Stage Data (Prismatic) Listed below (Recalc)			
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
360.0		9,260	0	0			
365.0		18,220	68,700	68,700			
Device	Routing	Invert	Outlet Device	ces			
#1	Primary	364.00'	10.0' long x	(10.0' breadth Broad-Crested Rectangular Weir			
•				0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 sh) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64			
#2	Primary	361.00'	12.0" Round Culvert L= 40.0' Ke= 0.500				
				t Invert= 361.00' / 360.00' S= 0.0250 '/' Cc= 0.900			
			•	n= 0.013, Flow Area= 0.79 sf			
#3	Device 2	363.00'		"Horiz. Orifice/Grate C= 0.600			
			Limited to we	eir flow at low heads			

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=360.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Controls 0.00 cfs)

³⁼Orifice/Grate (Controls 0.00 cfs)

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Page 31

Summary for Pond 22P: Basin 6

Inflow Area = 3.020 ac, 30.13% Impervious, Inflow Depth = 0.22" for 2-Year event

Inflow = 0.17 cfs @ 12.83 hrs, Volume= 0.055 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 456.46' @ 26.20 hrs Surf.Area= 5,674 sf Storage= 2,409 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Sto	rage Storage	Description	
#1	456.00'	63,00	00 cf Custon	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation (feet)	Sı	urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
456.00		4,800	0	0	
462.00		16,200	63,000	63,000	
Device R	Routing	Invert	Outlet Device	es	
#1 P	rimary	461.00'	Head (feet)	0.20 0.40 0.60	coad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=456.00' (Free Discharge) 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Page 32

Summary for Pond 24P: Basin 7

4.260 ac, 27.00% Impervious, Inflow Depth = 0.15" for 2-Year event Inflow Area =

Inflow 0.14 cfs @ 12.57 hrs, Volume= 0.053 af

3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min Outflow 0.00 cfs @

0.00 cfs @ 3.00 hrs, Volume= 0.000 af Primary

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 306.02' @ 24.95 hrs Surf.Area= 2,821 sf Storage= 2,303 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	lnve	ert Avail.Sto	rage Storage	e Description			
#1	305.0	00' 63,39	2 cf Custon	n Stage Data (Pr	rismatic) Listed below (Recalc)		
Elevetie	_	Curf Aron	Inc.Store	Cum.Store			
Elevatio		Surf.Area					
(fee	τ)	(sq-ft)	(cubic-feet)	(cubic-feet)			
305.0	0	1,690	0	0			
306.0	0	2,798	2,244	2,244			
308.0	0	5,005	7,803	10,047			
310.0	0	7,465	12,470	22,517			
312.0	0	10,160	17,625	40,142			
314.0	0	13,090	23,250	63,392			
_							
Device	Routing	Invert	Outlet Device	es			
#1	Primary	313.00'	10.0' long x	10.0' breadth B	road-Crested Rectangular Weir		
	•		Head (feet)	0.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60		
			Coef. (Englis	h) 2.49 2.56 2	.70 2.69 2.68 2.69 2.67 2.64		
#2	Primary	306.00'	12.0" Round	d Culvert L= 16	88.0' Ke= 0.500		
	•		Inlet / Outlet Invert= 306.00' / 304.30' S= 0.0101 '/' Cc= 0.900				
			n= 0.013, Fl	ow Area= 0.79 s	f		
#3	Device 2	312.00'	•	Horiz. Orifice/G			

Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=305.00' (Free Discharge)

⁻¹⁼Broad-Crested Rectangular Weir (Controls 0.00 cfs)

²⁼Culvert (Controls 0.00 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

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Reach 2R: Box Culvert

Time span=3.00-40.00 hrs, dt=0.05 hrs, 741 points Runoff by SCS TR-20 method, UH=SCS Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=32.630 ac 0.43% Impervious Runoff Depth=0.01" Subcatchment 1S: Area 20 Flow Length=3,450' Slope=0.0340 '/' Tc=164.3 min CN=33 Runoff=0.05 cfs 0.025 af Runoff Area=5.540 ac 31.59% Impervious Runoff Depth=1.33" Subcatchment 3S: Area 22 Flow Length=743' Slope=0.1000 '/' Tc=12.1 min CN=65 Runoff=6.44 cfs 0.614 af Runoff Area=5,380 ac 22,49% Impervious Runoff Depth=0.59" Subcatchment 5S: Area 19 Flow Length=700' Slope=0.0900 '/' Tc=16.9 min CN=52 Runoff=1.67 cfs 0.266 af Runoff Area=12,300 ac 0.00% Impervious Runoff Depth=0.07" Subcatchment 8S: Area 21 Flow Length=800' Slope=0.0750 '/' Tc=30.6 min CN=37 Runoff=0.10 cfs 0.068 af Runoff Area=4.850 ac 34.43% Impervious Runoff Depth=1.33" Subcatchment 9S: Area 23 Flow Length=1,100' Slope=0,0350 '/' Tc=27.9 min CN=65 Runoff=4.08 cfs 0.538 af Runoff Area=8.740 ac 20.14% Impervious Runoff Depth=0.46" Subcatchment 11S: Area 17 Flow Length=1,100' Slope=0.0800'/' Tc=27.7 min CN=49 Runoff=1.51 cfs 0.332 af Runoff Area=2.100 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 13S: Area 13 Flow Length=250' Slope=0.0400 '/' Tc=20.4 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=0.470 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 14S: Area 14 Flow Length=250' Slope=0.1200 '/' Tc=11.8 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=13.190 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 15S: Area 10 Flow Length=1,200' Slope=0.1000 '/' Tc=43.8 min CN=31 Runoff=0.00 cfs 0.000 af Runoff Area=0.970 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 16S: Area 24 Flow Length=350' Slope=0.0250 '/' Tc=33.7 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=2.730 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 17S: Area 25 Flow Length=600' Slope=0.0330 '/' Tc=45.2 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=3.010 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 19S: Area 28 Flow Length=360' Slope=0.0550 '/' Tc=23.3 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=0.00" Subcatchment 20S: Area 27 Flow Length=400' Slope=0.0250 '/' Tc=37.5 min CN=30 Runoff=0.00 cfs 0.000 af Runoff Area=3.020 ac 30.13% Impervious Runoff Depth=0.80" Subcatchment 21S: Area 26 Flow Length=860' Slope=0.0200 '/' Tc=38.1 min CN=56 Runoff=1.10 cfs 0.200 af Runoff Area=4.260 ac 27.00% Impervious Runoff Depth=0.64" Subcatchment 23S: Area 12 Flow Length=700' Slope=0.1000 '/' Tc=15.6 min CN=53 Runoff=1.54 cfs 0.228 af

96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=0.05 cfs 0.025 af

Avg. Flow Depth=0.00' Max Vel=1.71 fps Inflow=0.05 cfs 0.025 af

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	vg. Flow Depth=0.02' Max Vel=0.82 fps Inflow=0.11 cfs 0.093 af 0.0' S=0.0725 '/' Capacity=169.95 cfs Outflow=0.11 cfs 0.093 af
	vg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af 60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af
Pond 4P: Basin 5	Peak Elev=403.17' Storage=26,754 cf Inflow=6.44 cfs 0.614 af Outflow=0.00 cfs 0.000 af
Pond 6P: Basin 4	Peak Elev=425.29' Storage=11,573 cf Inflow=1.67 cfs 0.266 af Outflow=0.00 cfs 0.000 af
Pond 10P: Basin 9	Peak Elev=433.24' Storage=23,421 cf Inflow=4.08 cfs 0.538 af Outflow=0.00 cfs 0.000 af
Pond 12P: Basin 8	Peak Elev=361.38' Storage=14,466 cf Inflow=1.51 cfs 0.332 af Outflow=0.00 cfs 0.000 af
Pond 22P: Basin 6	Peak Elev=457.42' Storage=8,716 cf Inflow=1.10 cfs 0.200 af Outflow=0.00 cfs 0.000 af

Pond 24P: Basin 7

Total Runoff Area = 100.290 ac Runoff Volume = 2.271 af Average Runoff Depth = 0.27" 91.43% Pervious = 91.700 ac 8.57% Impervious = 8.590 ac

Peak Elev=307.97' Storage=9,914 cf Inflow=1.54 cfs 0.228 af Outflow=0.00 cfs 0.000 af

Summary for Subcatchment 1S: Area 20

Runoff = 0.05 cfs @ 24.49 hrs, Volume= 0.025 af, Depth= 0.01"

_	<u>Are</u> a	(ac)	CN	Desc	ription				_
1.320 30 Brush, Good, HSG A				h, Good, F	ISG A				
0.440 48 Brush, Good, HSG B				h, Good, F	ISG B				
	27.	650	30	Woo	ds, Good,	HSG A			
3.080 55 Woods, Good, HSG B			HSG B						
0.140 98 Paved parking, HSG A					d parking,	HSG A			_
	32.630 33		Weig	hted Aver	age				
	32.490		99.5	99.57% Pervious Area					
0.140		0.439	% Impervio	ous Area					
	Tc	Lengt	h	Slope	Velocity	Capacity	Description		
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		<u> </u>	_
	164.3	3,45	0 (0.0340	0.35		Lag/CN Method,		

Summary for Subcatchment 3S: Area 22

Runoff = 6.44 cfs @ 12.19 hrs, Volume= 0.614 af, Depth= 1.33"

_	Area	(ac)	CN	Desc	ription			
	2.000 39 >75% Grass cover, Good, HSG A							
1.790 61 >75% Grass cover, Good, HSG B								
0.400 98 Paved roads w/curbs & sewers, HSG A								
0.290 98 Paved roads w/curbs & sewers, HSG B								
	0.	330	98	Pave	d parking,	HSG A		
	0.	200	98	Pave	d parking,	HSG B		
0.340 98 Roofs, HSG A								
_	0.	190	98	Roofs	s, HSG B			
5.540 65 Weighted Average					hted Aver	age		
3.790 68.41% Pervious Area					% Pervio	us Area		
1.750 31.59% Impervious Area					% Imperv	ious Area		
	Тс	Lengt	h :	Slope	Velocity	Capacity	Description	
_	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
	12.1	74	3 0	.1000	1.03		Lag/CN Method,	

Summary for Subcatchment 5S: Area 19

Runoff = 1.67 cfs @ 12.36 hrs, Volume= 0.266 af, Depth= 0.59"

	Area	(ac) (N Des	cription					
4.170 39 >75% Grass cover, Good, HSG A									
	0.								
0.480 98 Paved parking, HSG A									
	0.	050	98 Roc	fs, HSG A					
	5.	380	52 We	ighted Ave	rage				
	4.	170	77.8	51% Pervio	us Area				
	1.	210	22.4	19% Imper	ious Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	16.9	700	0.0900	0.69		Lag/CN Method,			

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Page 38

Summary for Subcatchment 8S: Area 21

Runoff = 0.10 cfs @ 15.66 hrs, Volume= 0.0

0.068 af, Depth= 0.07"

	Area ((ac)	CN	Desc	ription				
	0.770 30 Brush, Good, HSG A								
	0.	550	48	Brus	Brush, Good, HSG B				
	7.700 30			Woo	ds, Good,	HSG A			
	3.280 55			Woods, Good, HSG B					
	12.300 37		37	Weig	hted Aver	age			
	12.	300		100.0	00% Pervi	ous Area			
	Tc	Length	1 3	Slope	Velocity	Capacity	Description		
(min)_	(feet	<u> </u>	(ft/ft)	(ft/sec)	(c <u>fs)</u>			
	30.6	800	0.	.0750	0.44		Lag/CN Method,		

Summary for Subcatchment 9S: Area 23

Runoff = 4.08 cfs @ 12.43 hrs, Volume= 0.538 af, Depth= 1.33"

Area	a (ac)	CN	l De s c	ription			W.		
1.980 39 >75% Grass cover, Good, HSG A									
•	1.200	61	>75%	6 Grass co	ver, Good,	, HSG B			
(0.680	98	Pave	d roads w	curbs & se	ewers, HSG A			
0.060 98 Paved roads w/curbs & sewers, HSG B									
(0.350	98	Pave	ed parking,	HSG A				
0.120 98 Paved parking, HSG B									
0.340 98 Roofs, HSG A									
	0.120	98	Roof	s, HSG B					
4	4.850	65	Weig	hted Aver	age				
3.180 65.57% Pervious Area									
1.670 34.43% lr					ious Area				
To	Leng	jth	Slope	Velocity	Capacity	Description			
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	_			
27.9	1,1	00	0.0350	0.66		Lag/CN Method,			

Summary for Subcatchment 11S: Area 17

Runoff = 1.51 cfs @ 12.60 hrs, Volume= 0.332 af, Depth= 0.46"

Area ((ac) (<u>CN E</u>)esc	ription			
5.0	060	39 >	75%	Grass co	over, Good,	HSG A	
0.0	660	98 F	ave	d roads w	/curbs & se	wers, HSG A	
0.	590	98 F	ave	d parking,	HSG A		
0.	510	98 F	Roof	s, HSG A			
1.920 30 Woods, Good, HSG A							
8.740 49 Weighted Average							
6.9	980	7	9.86	8% Pervio	us Area		
1.	760	2	0.14	l% Imperv	ious Area		
	Length		•	Velocity	Capacity	Description	
(min)	(feet)	<u>(ft</u>	/ft)	(ft/sec)	(cfs)		
27.7	27.7 1,100		00	0.66		Lag/CN Method,	

Summary for Subcatchment 13S: Area 13

[45] Hint: Runoff=Zero

Runoff = 0

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac)	CN	Desc	ription			<u>_</u>
	0.	200	30	Brus	h, Good, F	ISG A		
	1.	900	30	Woo	ds, Good,	HSG A		
_	2.	100	30	Weig	hted Aver	age		
	2.100			100.0	00% Pervi	ous Area		
	Tc	Lengt	h	Slope	Velocity	Capacity	Description	
	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
_	20.4	25	0 0	0.0400	0.20		Lag/CN Method,	

Summary for Subcatchment 14S: Area 14

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac)	CN De	scription			
-	0.	140	30 Br	ush, Good, I	HSG A		
	0.	330	30 W	oods, Good,	HSG A		
	0.	470	30 W	eighted Ave	rage		
	0.470 100.00% Pervious Area				ious Area		
	Tc Length		Slop	e Velocity	Capacity	Description	
	(min)	(feet)	(ft/f) (ft/sec)	(cfs)		
	11.8	250	0.120	0.35		Lag/CN Method,	

Summary for Subcatchment 15S: Area 10

Runoff = 0.00 cfs @ 24.29 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(a <u>c)</u>	CN	Desc	ription		
	0.	490	30	Brus	h, Good, F	ISG A	
*	2.	580	35	Ease	ement		
	10.	120	30	Woo	ds, Good,	HSG A	
	13.	190	31	Weig	ghted Aver	age	
	13.	190		100.	00% Pervi	ous Area	
	Tc	Length	n :	Slope	Velocity	Capacity	Description
_	(min)	(feet		(ft/ft)	(ft/sec)	(cfs)	
	43.8	1,200	0 (.1000	0.46		Lag/CN Method,

Summary for Subcatchment 16S: Area 24

[45] Hint: Runoff=Zero

Runoff =

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

_	Area	(ac)	CN	Desc	cription		
	0.180 30 Brush, Good, HSG A					ISG A	
	0.790 30 Woods, Good, HSG A					HSG A	
_	0.	970	30	Weig	hted Aver	age	
	0,970 100,00% Pervio						
	Tc	Lengt	h	Slope	Velocity	Capacity	Description
	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)	
	33.7	35	0 0	0.0250	0.17		Lag/CN Method,

Summary for Subcatchment 17S: Area 25

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac) C	N Des	cription			
Ī	0.	220	30 Brus	h, Good, H	HSG A		
	2.	510	30 W <u>o</u> c	ods, Good,	HSG A		
-	2.	730	30 Wei	ghted Aver	age		
	2.	730	100.	00% Pervi	ous Area		
	Tc	Length	Slope	Velocity	Capacity	Description	
	(<u>min</u>)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	45.2	600	0.0330	0.22		Lag/CN Method	

Summary for Subcatchment 19S: Area 28

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

Area	(ac)	ON De	escription		
 3.	010	30 W	oods, Good,	HSG A	
3.	010	10	0.00% Perv	ious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
23.3	360	0.055	0 0.26		Lag/CN Method,

Summary for Subcatchment 20S: Area 27

[45] Hint: Runoff=Zero

Runoff

0.00 cfs @ 3.00 hrs, Volume=

0.000 af, Depth= 0.00"

	Area	(ac)	CN	Desc	ription			
	1.	100	30	Woo	ds, Good,	HSG A		
	1.	100		100.	00% Pervi	ous Area		
	Tc (min)	Lengtl (feet		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
_	37.5	400	0 0.	.0250	0.18		Lag/CN Method,	

Summary for Subcatchment 21S: Area 26

Runoff = 1.10 cfs @ 12.64 hrs, Volume= 0.200 af, Depth= 0.80"

	Area ((ac) (CN	Desc	ription			
	1.	960	39	>75%	6 Grass co	over, Good	HSG A	
	0.490 98 Paved roads w/curbs & sev						ewers, HSG A	
0.210 98 Paved parking, HSG A						HSG A		
	0.	210	98	Roof	s, HSG A			
	0.	150	30	Woo	ds, Good,	HSG A		
	3.	020	56	Weig	hted Aver	age		
	2.	110		69.8	7% Pervio	us Area		
	0.	910		30.13	3% Imperv	rious Area		
	Тс	Length	ı Şl	ope	Velocity	Capacity	Description	
_	<u>(min)</u>	(feet)) (1	ft/ft)	(ft/sec)	(cfs)		
	38.1	860	0.0	200	0.38		Lag/CN Method,	

Summary for Subcatchment 23S: Area 12

Runoff = 1.54 cfs @ 12.31 hrs, Volume= 0.228 af, Depth= 0.64"

Area	(ac) (<u>CN</u>	Desc	cription								
0.	770	30	Woo	Voods, Good, HSG A								
2.	340	39	>75%	% Grass co	over, Good,	, HSG A						
0.	390	98	Pave	ed roads w	/curbs & se	ewers, HSG A						
0.	400	98	Pave	ed parking,	, HSG A							
0.	360	98	Roof	s, HSG A								
4.	260	53	Weig	hted Aver	age							
3.	110		73.0	0% Pervio	us Area							
1,	150		27.0	0% Imper	ious Area							
Tc	Length	Sle	ope	Velocity	Capacity	Description						
(min)	(feet)	<u>(f</u>	t/ft)	(ft/sec)	(cfs)							
15.6	700	0.1	000	0.75		Lag/CN Method,						

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Summary for Reach 2R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

43.550 ac, 7.12% Impervious, Inflow Depth = 0.01" for 10-Year event Inflow Area =

0.05 cfs @ 24.49 hrs, Volume= 0.025 af Inflow =

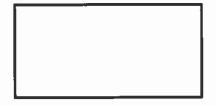
Outflow 0.05 cfs @ 24.52 hrs, Volume= 0.025 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.71 fps, Min. Travel Time= 0.6 min Avg. Velocity = 1.71 fps, Avg. Travel Time= 0.6 min

Peak Storage= 2 cf @ 24.50 hrs Average Depth at Peak Storage= 0.00' Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe n = 0.013Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 384.00', Outlet Invert= 383.00'



Page 51

Summary for Reach 7R: Natural Channel

[62] Hint: Exceeded Reach 2R OUTLET depth by 0.02' @ 15.80 hrs

[81] Warning: Exceeded Pond 12P by 23.00' @ 3.00 hrs

Inflow Area = 69.440 ac, 9.40% Impervious, Inflow Depth = 0.02" for 10-Year event

Inflow = 0.11 cfs @ 23.21 hrs, Volume= 0.093 af

Outflow = 0.11 cfs @ 23.66 hrs, Volume= 0.093 af, Atten= 0%, Lag= 27.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.82 fps, Min. Travel Time= 16.3 min Avg. Velocity = 0.75 fps, Avg. Travel Time= 17.7 min

Peak Storage= 107 cf @ 23.39 hrs

Average Depth at Peak Storage= 0.02'

Peak Full Depth= 2.00' Flow Asset 14.0 cf. Capacity= 1

Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 169.95 cfs

6.00' x 2.00' deep channel, n= 0.040 Side Slope Z-value= 0.5 '/' Top Width= 8.00' Length= 800.0' Slope= 0.0725 '/' Inlet Invert= 383.00', Outlet Invert= 325.00'



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Page 52

Summary for Reach 18R: Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event

Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

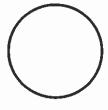
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs Average Depth at Peak Storage= 0.00' Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe n= 0.013 Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 472.00', Outlet Invert= 471.00'



Page 53

Summary for Pond 4P: Basin 5

Inflow Area = 5.540 ac, 31.59% Impervious, Inflow Depth = 1.33" for 10-Year event

Inflow = 6.44 cfs @ 12.19 hrs, Volume= 0.614 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 403.17' @ 24.75 hrs Surf.Area= 9,801 sf Storage= 26,754 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	ln <u>ve</u>	rt Avail.Sto	rage Storage	e Description					
#1	400.0	0' 57,9	00 cf Custon	n Stage Data (Pr	rismatic) Listed below (Recalc)				
Elevation	on	Surf.Area	Inc.Store	Cum.Store					
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)					
400.0	00	7,055	0	0					
406.0	00	12,245	57,900	57,900					
Device	Routing	Invert	Outlet Device	es					
#1	Primary	405.00'	-		road-Crested Rectangular Weir				
			, ,	Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef, (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64					
#2	Primary	399.00'		d Culvert L= 30					
					398.00' S= 0.0333 '/' Cc= 0.900				
			•	ow Area= 0.79 s					
#3	Device 2	404.00'		' Horiz. Orifice/G					
			Limited to we	Limited to weir flow at low heads					

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=400.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Passes 0.00 cfs of 2.67 cfs potential flow)

=3=Orifice/Grate (Controls 0.00 cfs)

Page 54

Summary for Pond 6P: Basin 4

5.380 ac. 22.49% Impervious, Inflow Depth = 0.59" for 10-Year event Inflow Area =

1.67 cfs @ 12.36 hrs, Volume= 0.266 af Inflow

3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min Outflow 0.00 cfs @

Primary 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 425.29' @ 25.00 hrs Surf.Area= 4,886 sf Storage= 11,573 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inv	ert Avail.Sto	orage Storage	e Description	
#1	422.	00' 67,8	16 cf Custom	n Stage Data (Prismatic) Listed below (Recalc)	
		0.74	. 01	004	
Elevation		Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
422.0	00	2,265	0	0	
424.0	00	3,738	6,003	6,003	
426.0	00	5,515	9,253	15,256	
428.0	00	7,545	13,060	28,316	
430.0	00	9,815	17,360	45,676	
432.0	00	12,325	22,140	67,816	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	431.00'	10.0' long x	10.0' breadth Broad-Crested Rectangular Weir	
	•		Head (feet) (0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60	
				sh) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64	
#2	Primary	423.00'		d Culvert L= 70.0' Ke= 0.500	
				Invert= 423.00' / 422.00' S= 0.0143 '/' Cc= 0.900	

n= 0.013, Flow Area= 0.79 sf

Limited to weir flow at low heads

24.0" x **24.0"** Horiz. Orifice/Grate C= 0.600

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=422.00' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

430.00

Device 2

#3

²⁼Culvert (Controls 0.00 cfs)

-3=Orifice/Grate (Controls 0.00 cfs)

Page 55

Summary for Pond 10P: Basin 9

Inflow Area = 4.850 ac, 34.43% Impervious, Inflow Depth = 1.33" for 10-Year event

Inflow = 4.08 cfs @ 12.43 hrs, Volume= 0.538 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 433.24' @ 25.65 hrs Surf.Area= 9,686 sf Storage= 23,421 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inve	ertAvail.Sto	rage Storage	Description	
#1	430.0	00' 88,9	50 cf Custon	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio	n	Surf.Area	Inc.Store	Cum.Store	
(fee		(sq-ft)	(cubic-feet)	(cubic-feet)	
430.0	<u> </u>	4,910	0	0	
432.0		7,730	12,640	12,640	
434.0	0	10,890	18,620	31,260	
436.0	0	14,365	25,255	56,515	
438.0	0	18,070	32,435	88,950	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	437.00'	10.0' long x	10.0' breadth Br	oad-Crested Rectangular Weir
	_				0.80 1.00 1.20 1.40 1.60
		_			70 2.69 2.68 2.69 2.67 2.64
#2	Primary	431.00'		d Culvert L= 55	
					430.00' S= 0.0182 '/' Cc= 0.900
			n= 0.013, Fl	ow Area= 0.79 st	

Limited to weir flow at low heads

24.0" x **24.0"** Horiz. Orifice/Grate C= 0.600

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=430.00' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

436.00'

-2=Culvert (Controls 0.00 cfs)

Device 2

#3

³⁼Orifice/Grate (Controls 0.00 cfs)

Page 56

Summary for Pond 12P: Basin 8

Inflow Area = 8.740 ac, 20.14% Impervious, Inflow Depth = 0.46" for 10-Year event

Inflow = 1.51 cfs @ 12.60 hrs, Volume= 0.332 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 361.38' @ 25.60 hrs Surf.Area= 11,730 sf Storage= 14,466 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inve	ert <u>Avail.Sto</u>	rage Storage	Description			
#1	360.0	0' 68,7	00 cf Custom	Stage Data (Pr	ismatic) Listed below (Recalc)		
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
360.0	00	9,260	0	0			
365.0	00	18,220	68,700	68,700			
Device	Routing	Invert	Outlet Devices	3			
#1	Primary	364.00'			road-Crested Rectangular Weir		
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64				
#2	Primary	361.00'		Culvert L= 40	0.0' Ke= 0.500 ' 360.00' S= 0.0250 '/' Cc= 0.900		
				w Area= 0.79 st			
#3	Device 2	363.00'		Horiz. Orifice/G			
			Limited to wei	r flow at low hea	ads		

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=360.00' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Controls 0.00 cfs)

³⁼Orifice/Grate (Controls 0.00 cfs)

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Page 57

Summary for Pond 22P: Basin 6

Inflow Area = 3.020 ac, 30.13% Impervious, Inflow Depth = 0.80" for 10-Year event

Inflow = 1.10 cfs @ 12.64 hrs, Volume= 0.200 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 457.42' @ 26.20 hrs Surf.Area= 7,494 sf Storage= 8,716 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inve	ert <u>Ava</u>	ail.Storage	e Storage	Description	
#1	456.0	00'	63,000 c	f Custom	Stage Data (Pr	ismatic) Listed below (Recalc)
Elevatior (feet	-	Surf.Area (sq-ft)		nc.Store bic-feet)	Cum.Store (cubic-feet)	
456.00		4,800		0	0	
462.00)	16,200		63,000	63,000	
Device	Routing	1	nvert O	utlet Device	s	
#1	Primary	46	He	ead (feet) 0	0.20 0.40 0.60	road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=456.00' (Free Discharge) 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Page 58

Summary for Pond 24P: Basin 7

Inflow Area = 4.260 ac, 27.00% Impervious, Inflow Depth = 0.64" for 10-Year event

Inflow = 1.54 cfs @ 12.31 hrs, Volume= 0.228 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 307.97' @ 24.95 hrs Surf.Area= 4,976 sf Storage= 9,914 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inv	ert Ava	il.Storage	Storage	Description	
#1	305.	00'	63,392 cf	Custom	Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio (fee	• •	Surf.Area (sq-ft)		:Store c-feet)	Cum.Store (cubic-feet)	
305.0	0	1,690		0	0	
306.0	0	2,798		2,244	2,244	
308.0	0	5,005		7,803	10,047	
310.0	0	7,465	•	12,470	22,517	
312.0	0	10,160	•	17,625	40,142	
314.0	0	13,090		23,250	63,392	
<u>D</u> evice	Routing	lr	nvert Outl	et Device	S	
#1	Primary	31:	Hea	d (feet) 0	.20 0.40 0.60	Poad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60 70 2.69 2.68 2.69 2.67 2.64

#1 Primary 313.00' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 #2 Primary 306.00' 12.0" Round Culvert L= 168.0' Ke= 0.500 Inlet / Outlet Invert= 306.00' / 304.30' S= 0.0101 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf #3 Device 2 312.00' 24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=305.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Controls 0.00 cfs)

3=Orifice/Grate (Controls 0.00 cfs)

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Reach 2R: Box Culvert

Page 59

Time span=3.00-40.00 hrs, dt=0.05 hrs, 741 points Runoff by SCS TR-20 method, UH=SCS Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=32.630 ac
Runoff Area=5.540 ac 31.59% Impervious Runoff Depth=2.65" Slope=0.1000 '/' Tc=12.1 min CN=65 Runoff=13.61 cfs 1.222 af
Runoff Area=5.380 ac 22.49% Impervious Runoff Depth=1.50" Slope=0.0900 '/' Tc=16.9 min CN=52 Runoff=5.86 cfs 0.674 af
Runoff Area=12.300 ac
Runoff Area=4.850 ac 34.43% Impervious Runoff Depth=2.65" Slope=0.0350 '/' Tc=27.9 min CN=65 Runoff=8.61 cfs 1.070 af
Runoff Area=8.740 ac 20.14% Impervious Runoff Depth=1.27" Slope=0.0800 '/' Tc=27.7 min CN=49 Runoff=6.17 cfs 0.922 af
Runoff Area=2.100 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.0400 '/' Tc=20.4 min CN=30 Runoff=0.03 cfs 0.021 af
Runoff Area=0.470 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.1200 '/' Tc=11.8 min CN=30 Runoff=0.01 cfs 0.005 af
Runoff Area=13.190 ac 0.00% Impervious Runoff Depth=0.16" Slope=0.1000 '/' Tc=43.8 min CN=31 Runoff=0.27 cfs 0.172 af
Runoff Area=0.970 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.0250 '/' Tc=33.7 min CN=30 Runoff=0.02 cfs 0.010 af
Runoff Area=2.730 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.0330 '/' Tc=45.2 min CN=30 Runoff=0.04 cfs 0.027 af
Runoff Area=3.010 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.0550 '/' Tc=23.3 min CN=30 Runoff=0.05 cfs 0.030 af
Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=0.12" Slope=0.0250 '/' Tc=37.5 min CN=30 Runoff=0.02 cfs 0.011 af
Runoff Area=3.020 ac 30.13% Impervious Runoff Depth=1.84" Slope=0.0200 '/' Tc=38.1 min CN=56 Runoff=3.02 cfs 0.463 af
Runoff Area=4.260 ac 27.00% Impervious Runoff Depth=1.59" Slope=0.1000 '/' Tc=15.6 min CN=53 Runoff=5.12 cfs 0.563 af

96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=1.77 cfs 1.072 af

Avg. Flow Depth=0.08' Max Vel=2.73 fps Inflow=1.77 cfs 1.072 af

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Reach 7R: Natural Channel

Avg. Flow Depth=0.15' Max Vel=2.71 fps Inflow=2.41 cfs 1.631 af n=0.040 L=800.0' S=0.0725 '/' Capacity=169.95 cfs Outflow=2.41 cfs 1.631 af

Reach 18R: Culvert Avg. Flow Depth=0.08' Max Vel=2.08 fps Inflow=0.09 cfs 0.057 af 24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.09 cfs 0.057 af

Pond 4P: Basin 5 Peak Elev=404.11' Storage=36,339 cf Inflow=13.61 cfs 1.222 af

Outflow=1.03 cfs 0.415 af

Pond 6P: Basin 4 Peak Elev=428.14' Storage=29,379 cf Inflow=5.86 cfs 0.674 af

Outflow=0.00 cfs 0.000 af

Pond 10P: Basin 9 Peak Elev=435.28' Storage=46,588 cf Inflow=8.61 cfs 1.070 af

Outflow=0.00 cfs 0.000 af

Pond 12P: Basin 8 Peak Elev=363.05' Storage=36,588 cf Inflow=6.17 cfs 0.922 af

Outflow=0.30 cfs 0.099 af

Pond 22P: Basin 6 Peak Elev=458.73' Storage=20,147 cf Inflow=3.02 cfs 0.463 af

Outflow=0.00 cfs 0.000 af

Pond 24P: Basin 7 Peak Elev=310.26' Storage=24,526 cf Inflow=5.12 cfs 0.563 af

Outflow=0.00 cfs 0.000 af

Total Runoff Area = 100.290 ac Runoff Volume = 6.306 af Average Runoff Depth = 0.75" 91.43% Pervious = 91.700 ac 8.57% Impervious = 8.590 ac

Summary for Subcatchment 1S: Area 20

Runoff = 0.95 cfs @ 16.60 hrs, Volume= 0.657 af, Depth= 0.24"

	164.3	3,45	0 (0.0340	0.35		Lag/CN Method,	
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	Tc	Lengt	:h	Slope	Velocity	Capacity	Description	
	0.140		0.43	% Impervi	ous Area			
		490			7% Pervio			
		630	33	_	jhted Aver	•		
_		140	98		d parking,			
		080	55		ds, Good,			
		650	30		ds, Good,			
		440	48		h, Good, F			
1.320 30 Brush, Good, HSG A								
_	Area	(ac)	CN	Desc	ription			

Summary for Subcatchment 3S: Area 22

Runoff = 13.61 cfs @ 12.18 hrs, Volume= 1.222 af, Depth= 2.65"

Area	a (ac)	CI	N Desc	cription									
	2.000	39	9 >759	>75% Grass cover, Good, HSG A									
	1.790	6	1 >759	% Grass co	over, Good,	, HSG B							
(0.400	98	B Pave	ed roads w	/curbs & se	ewers, HSG A							
ĺ	0.290	98	B Pave	ed roads w	curbs & se	ewers, HSG B							
(0.330	98		ed parking,									
(0.200	9	B Pave	ed parking,	HSG B								
(0.340	98	B Roof	s, HSG A									
	0.190	98	B Root	s, HSG B									
;	5.540	6	5 Weig	ghted Aver	age								
;	3.790		68.4	1% Pervio	us Area								
	1.750		31.5	9% Imperv	ious Area								
To	-	•	Slope	Velocity	Capacity	Description							
(min	(fee	et)	(ft/ft)	(ft/sec)_	(cfs)								
12.1	7	43	0.1000	1.03		Lag/CN Method,							

Summary for Subcatchment 5S: Area 19

Runoff = 5.86 cfs @ 12.27 hrs, Volume= 0.674 af, Depth= 1.50"

_	Area	(ac) (CN D	Description									
	4.	170	39 >	>75% Grass cover, Good, HSG A									
	0.	680	98 P	ave	d roads w	/curbs & se	ewers, HSG A						
	0.	480	98 P	ave	d parking,	HSG A							
	0.	050	98 R	oofs	s, HSG A								
	5.	380	52 W	/eigl	hted Aver	age							
	4.	170	7	7.51	% Pervio	us Area							
	1.	210	2	2.49	% Imper	rious Area							
	Тс	Length	Slop	oe -	Velocity	Capacity	Description						
_	(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)							
	16.9	700	0.090	00	0.69		Lag/CN Method,						

Summary for Subcatchment 8S: Area 21

Runoff = 1.48 cfs @ 12.72 hrs, Volume=

0.459 af, Depth= 0.45"

Area	(ac) (N De	scription			
0.	770	30 Bru	sh, Good, I	HSG A		
0.	550	48 Bru	ish, Good, I	HSG B		
7.	7.700 30 Woods, Good, HSG A					
3.	280	55 W c	ods, Good,	HSG B		
12.	300	37 We	ighted Ave	rage		
12.	300	100).00% Pervi	ious Area		
Tc	Length	Slope	•	Capacity	Description	
<u>(min)</u>	(feet)	(ft/ft	(ft/sec)	(cfs)		
30.6	800	0.0750	0.44		Lag/CN Method,	

Summary for Subcatchment 9S: Area 23

Runoff = 8.61 cfs @ 12.41 hrs, Volume= 1.070 af, Depth= 2.65"

	Area	(ac)	CN	Desc	ription				
1.980 39 >75% Grass cover, Good, HSG A									
	1.200 61 >75% Grass cover, Good, HSG B								
	0.	680	98	Pave	d roads w	/curbs & se	ewers, HSG A		
	0.	060	98	Pave	d roads w	curbs & se	ewers, HSG B		
	0.	350	98	Pave	ed parking,	HSG A			
	0.	120	98	Pave	d parking,	HSG B			
	0.	340	98	Roof	s, HSG A				
	0.	120	98	Roof	s, HSG B				
	4.	850	65	Weig	hted Aver	age			
	3.	180		65.57	7% Pervio	us Area			
	1.	670		34.43	3% Imperv	ious Area			
	Tc	Length	า ร	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	27.9	1,100	0.	0350	0.66		Lag/CN Method.		

Summary for Subcatchment 11S: Area 17

Runoff = 6.17 cfs @ 12.47 hrs, Volume= 0.922 af, Depth= 1.27"

Area	(ac)	CN	Desc	ription			
5	.060	39	>75%	6 Grass co	ver, Good,	HSG A	
0	.660	98	Pave	d roads w	/curbs & se	wers, HSG A	
0	.590	98	Pave	d parking,	HSG A		
0	.510	98	Roof	s, HSG A			
1	.920	30	Woo	ds, Good,	HSG A		
8	.740	49	Weig	hted Aver	age		
6	.980		79.86	3% Pervio	us Area		
1	1.760			4% Imperv	ious Area		
Тс	Lengt		Slope	Velocity	Capacity	Description	
<u>(min)</u>	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
27.7	1,10	0 0	0.0800	0.66		Lag/CN Method,	

Summary for Subcatchment 13S: Area 13

Runoff = 0.03 cfs @ 15.24 hrs, Volume= 0.021 af, Depth= 0.12"

	Area	(ac) C	N Des	cription			
	0.	200	30 Bru	sh, Good, l	HSG A		
_	<u> </u>	900_	<u>30 Wo</u>	ods, Good,	HSG A		
2.100 30 Weighted Average							
	2.	100	100	.00% Pervi	ous Area		
	Тс	Length	Slope	•	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	20.4	250	0.0400	0.20		Lag/CN Method,	

Summary for Subcatchment 14S: Area 14

Runoff = 0.01 cfs @ 15.10 hrs, Volume= 0.005 af, Depth= 0.12"

	Area	(ac) C	CN Description						
	0.	140	30 Brus	sh, Good, F	HSG A				
	0.	330	30 Woo	ods, Good,	HSG A				
	0.	470	30 Wei	ghted Aver	age				
	0.	470	100	.00% Pervi	ous Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	11.8	250	0.1200	0.35		Lag/CN Method,			

Summary for Subcatchment 15S: Area 10

Runoff = 0.27 cfs @ 15.26 hrs, Volume= 0.172 af, Depth= 0.16"

	Area	(ac)	CN	Desc	ription		<u> </u>	
	0.490 30			Brus	h, Good, F	ISG A		
*	2.	580	35	Ease	ement			
	10.	120	30	Woo	ds, Good,	HSG A		
	13.190 31 Weighted Average				hted Aver	age		
	13.	190		100.0	00% Pervi	ous Area		
	Tc	Lengt	h	Slope	Velocity	Capacity	Description	
	(min)	(feet	t)	(ft/ft)	(ft/sec)_	(cfs)		
	43.8	1,20	0 0	.1000	0.46		Lag/CN Method,	

Summary for Subcatchment 16S: Area 24

Runoff = 0.02 cfs @ 15.44 hrs, Volume= 0.010 af, Depth= 0.12"

_	Area	(ac) (CN	Desc	ription		
	0.	180	30	Brus	h, Good, F	ISG A	
	_ 0.	790	30	Woo	ds, Good,	HSG A	
	0.	970	30	Weig	hted Aver	age	
	0.970 100.00% Pervious Area						
	Тс	Length	\$I	lope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	<u></u>
	33.7	350	0.0	250	0.17		Lag/CN Method,

Summary for Subcatchment 17S: Area 25

Runoff = 0.04 cfs @ 15.62 hrs, Volume= 0.027 af, Depth= 0.12"

	Area	(ac)	CN	Desc	ription	_	<u> </u>
	0.220 30 Brush, Good, HSG A					ISG A	
	2.	510	30	Woo	ds, Good,	HSG A	
	2.730 30 Weighted Average						*
	2.	730		100.0	00% Pervi	ous Area	
	Тс	Lengt	:h	Slope	Velocity	Capacity	Description
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	45.2	60	0 (0.0330	0.22		Lag/CN Method,

Summary for Subcatchment 19S: Area 28

Runoff

0.05 cfs @ 15.29 hrs, Volume=

0.030 af, Depth= 0.12"

	Area	(ac) C	N Des	cription				
	3.	010	30 W oo	ds, Good,	HSG A			
3.010 100.00% Pervious Area								
	Tc	Length	Slope	Velocity		Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	23.3	360	0.0550	0.26		Lag/CN Method,		

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Page 73

Summary for Subcatchment 20S: Area 27

Runoff = 0.02 cfs @ 15.54 hrs, Volume= 0.011 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=6.40"

	Area	(ac) (CN Des	cription			
	1.100 30 Woods, Good, HSG A						
_	1.	100	100	.00% Pervi	ous Area		
	Тс	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	37.5	400	0.0250	0.18		Lag/CN Method,	

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Page 74

Summary for Subcatchment 21S: Area 26

Runoff = 3.02 cfs @ 12.58 hrs, Volume= 0.463 af, Depth= 1.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=6.40"

Area ((ac) (CN	Desc	ription						
1.	960	39	>75%	>75% Grass cover, Good, HSG A						
0.	490	98	Pave	Paved roads w/curbs & sewers, HSG A						
0.	210	98	Paved parking, HSG A							
0.	210	98	Roofs, HSG A							
0.	150	30	Woo	ds, Good,	HSG A	•••				
3.	3.020 56 Weighted Average									
2.110 69.87% Pervious Area										
0.910 30.13% Impervious Area					ious Area					
	Length		ope	Velocity	Capacity	Description				
<u>(min)</u>	(feet)) (ft/ft)	(ft/sec)	(cfs)					
38.1	860	0.0	200	0.38		Lag/CN Method,				

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Page 75

Summary for Subcatchment 23S: Area 12

Runoff = 5.12 cfs @ 12.25 hrs, Volume= 0.563 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=6.40"

	Area ((ac)	<u>CN</u>	Desc	ription			<u> </u>			
	0.	770	30	Woo	Voods, Good, HSG A						
	2.3	340	39	>75%	>75% Grass cover, Good, HSG A						
	0.3	390	98	Pave	Paved roads w/curbs & sewers, HSG A						
	0.4	400	98	Pave	Paved parking, HSG A						
	0.360 98 Roofs, HSG A										
	4.260 53 Weighted Average										
	3.110 73.00% Pervious Area										
1.150 27.00% Impervious Area						ious Area					
	Tc	Lengtl	h	Slope	Velocity	Capacity	Description				
(min)	(feet	:)	(ft/ft)	(ft/sec)	(cfs)					
	15.6	70	0 0	0.1000	0.75		Lag/CN Method,				

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Page 76

Summary for Reach 2R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 43.550 ac, 7.12% Impervious, Inflow Depth = 0.30" for 100-Year event Inflow = 1.77 cfs @ 15.34 hrs, Volume= 1.072 af

Outflow = 1.77 cfs @ 15.35 hrs, Volume= 1.072 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Max. Velocity= 2.73 fps, Min. Travel Time= 0.4 min

Avg. Velocity = 2.03 fps, Avg. Travel Time= 0.5 min

Peak Storage= 39 cf @ 15.34 hrs Average Depth at Peak Storage= 0.08' Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe n= 0.013 Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 384.00', Outlet Invert= 383.00'



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Page 77

Summary for Reach 7R: Natural Channel

[62] Hint: Exceeded Reach 2R OUTLET depth by 0.11' @ 12.80 hrs

[81] Warning: Exceeded Pond 12P by 23.00' @ 3.00 hrs

Inflow Area = 69.440 ac, 9.40% Impervious, Inflow Depth = 0.28" for 100-Year event

Inflow = 2.41 cfs @ 15.15 hrs, Volume= 1.631 af

Outflow = 2.41 cfs @ 15.27 hrs, Volume= 1.631 af, Atten= 0%, Lag= 7.6 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.71 fps, Min. Travel Time= 4.9 min Avg. Velocity = 1.67 fps, Avg. Travel Time= 8.0 min

Peak Storage= 711 cf @ 15.19 hrs Average Depth at Peak Storage= 0.15' Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 169.95 cfs

6.00' x 2.00' deep channel, n= 0.040 Side Slope Z-value= 0.5 '/' Top Width= 8.00' Length= 800.0' Slope= 0.0725 '/' Inlet Invert= 383.00', Outlet Invert= 325.00'



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Page 78

Summary for Reach 18R: Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.740 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event

Inflow = 0.09 cfs @ 15.46 hrs, Volume= 0.057 af

Outflow = 0.09 cfs @ 15.47 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.08 fps, Min. Travel Time= 0.5 min Avg. Velocity = 1.71 fps, Avg. Travel Time= 0.6 min

Peak Storage= 3 cf @ 15.46 hrs Average Depth at Peak Storage= 0.08' Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe n= 0.013 Length= 60.0' Slope= 0.0167 '/' Inlet Invert= 472.00', Outlet Invert= 471.00'



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Page 79

Summary for Pond 4P: Basin 5

Inflow Area = 5.540 ac, 31.59% Impervious, Inflow Depth = 2.65" for 100-Year event

Inflow = 13.61 cfs @ 12.18 hrs, Volume= 1.222 af

Outflow = 1.03 cfs @ 14.83 hrs, Volume= 0.415 af, Atten= 92%, Lag= 159.5 min

Primary = 1.03 cfs @ 14.83 hrs, Volume= 0.415 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 404.11' @ 14.83 hrs Surf.Area= 10,613 sf Storage= 36,339 cf

Plug-Flow detention time= 364.5 min calculated for 0.414 af (34% of inflow)

Center-of-Mass det. time= 232.4 min (1,084.7 - 852.3)

Volume	Inve	t Avail.Sto	rage Storage	Description			
#1	400.00)' 57,90	00 cf Custon	n Stage Data (Pr	ismatic) Listed below (Recalc)		
Elevation (fee	•	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)			
400.0	00	7,055	0	0			
406.0	00	12,245	57,900	57,900			
Device	Routing	Invert	Outlet Device	es			
#1	Primary	405.00'	Head (feet)	0.20 0.40 0.60	70ad-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60		
#2	Primary	399.00'	Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 12.0" Round Culvert L= 30.0' Ke= 0.500 Inlet / Outlet Invert= 399.00' / 398.00' S= 0.0333 '/' Cc= 0.900				
#3	Device 2	404.00'	24.0" x 24.0"	ow Area= 0.79 st ' Horiz. Orifice/G eir flow at low hea	Grate C= 0.600		

Primary OutFlow Max=1.00 cfs @ 14.83 hrs HW=404.11' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Passes 1.00 cfs of 8.12 cfs potential flow)
-3=Orifice/Grate (Weir Controls 1.00 cfs @ 1.10 fps)

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Page 80

Summary for Pond 6P: Basin 4

Inflow Area = 5.380 ac, 22.49% Impervious, Inflow Depth = 1.50" for 100-Year event

Inflow = 5.86 cfs @ 12.27 hrs, Volume= 0.674 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 428.14' @ 25.00 hrs Surf.Area= 7,703 sf Storage= 29,379 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	422.	00' 67,8	16 cf Custom	Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation	on	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
422.0	00	2,265	0	0	
424.0	00	3,738	6,003	6,003	
426.0	00	5,515	9,253	15,256	
428.0	00	7,545	13,060	28,316	
430.0	00	9,815	17,360	45,676	
432.0	00	12,325	22,140	67,816	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	431.00'	10.0' long x	10.0' breadth Br	oad-Crested Rectangular Weir
	•		Head (feet) (0.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60
			Coef. (Englis	h) 2.49 2.56 2.1	70 2.69 2.68 2.69 2.67 2.64
#2	Primary	423.00'	, ,	Culvert L= 70.	
	,		Inlet / Outlet	Invert= 423.00' /	422.00' S= 0.0143 '/' Cc= 0.900

n= 0.013. Flow Area= 0.79 sf

Limited to weir flow at low heads

24.0" x **24.0"** Horiz. Orifice/Grate C= 0.600

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=422.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

430.00

-2=Culvert (Controls 0.00 cfs)

Device 2

#3

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Page 81

Summary for Pond 10P: Basin 9

Inflow Area = 4.850 ac, 34.43% Impervious, Inflow Depth = 2.65" for 100-Year event

Inflow = 8.61 cfs @ 12.41 hrs, Volume= 1.070 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 435.28' @ 25.65 hrs Surf.Area= 13,109 sf Storage= 46,588 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

<u>Volum</u> e	Inve	ert Avail.Sto	rage Storage	e Description				
#1	430.0	00' 88,9	50 cf Custon	n Stage Data (Prismatic) Listed below (Recalc)				
Elevation	on	Surf.Area	Inc.Store	Cum.Store				
(fee	et)	(sq-ft)	(cubic-feet)	(cu <u>bic-feet)</u>				
430.0	00	4,910	0	0				
432.0	00	7,730	12,640	12,640				
434.0	00	10,890	18,620	31,260				
436.0	00	14,365	25,255	56,515				
438.0	00	18,070	32,435	88,950				
Device	Routing	Invert	Outlet Device	es				
#1	Primary	437.00'	10.0' long x	10.0' breadth Broad-Crested Rectangular Weir				
	•		Head (feet)	0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60				
			Coef. (Englis	sh) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64				
#2	Primary	431.00'	12.0" Round Culvert L= 55.0' Ke= 0.500					
			Inlet / Outlet	Invert= 431.00' / 430.00' S= 0.0182 '/' Cc= 0.900				
			n= 0.013, Fl	low Area= 0.79 sf				
#3	Device 2	436.00'		" Horiz. Orifice/Grate				
			Limited to we	eir flow at low heads				

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=430.00' (Free Discharge)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Controls 0.00 cfs)

¹⁻³⁼Orifice/Grate (Controls 0.00 cfs)

g1746 Retreat at Amherst Developed Conditions-Sou Type III 24-hr 100-Year Rainfall=6.40" Printed 5/22/2014 Prepared by {enter your company name here}

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Page 82

Summary for Pond 12P: Basin 8

8.740 ac, 20.14% Impervious, Inflow Depth = 1.27" for 100-Year event Inflow Area =

6.17 cfs @ 12.47 hrs, Volume= 0.922 af Inflow

0.30 cfs @ 22.38 hrs, Volume= 0.099 af, Atten= 95%, Lag= 594.7 min Outflow

0.30 cfs @ 22.38 hrs, Volume= 0.099 af Primary =

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 363.05' @ 22.38 hrs Surf.Area= 14,727 sf Storage= 36,588 cf

Plug-Flow detention time= 642.3 min calculated for 0.099 af (11% of inflow)

Center-of-Mass det. time= 466.9 min (1,379.1 - 912.2)

Volume	Inve	rt Avail.Sto	rage Storage	Description				
#1	360.0	0' 68,70	00 cf Custon	0 cf Custom Stage Data (Prismatic) Listed below (F				
				0 0				
Elevation	n .	Surf.Area	Inc.Store	Cum.Store				
(fee	t)	(sq-ft)	(cubic-feet)	(cubic-feet)				
360.0	00	9,260	0	0				
365.0	00	18,220	68,700	68,700				
		-						
Device	Routing	Invert	Outlet Device	es				
#1	Primary	364.00'	10.0' long x	10.0' breadth Br	road-Crested Rectangular Weir			
	•		Head (feet)	0.20 0.40 0.60	0.80 1.00 1.20 1.40 1.60			
			Coef. (Englis	sh) 2.49 2.56 2.	70 2.69 2.68 2.69 2.67 2.64			
#2	Primary	361.00'	12.0" Round Culvert L= 40.0' Ke= 0.500					
	•		Inlet / Outlet Invert= 361.00' / 360.00' S= 0.0250 '/' Cc= 0.900					
			n= 0.013, Fk	ow Area= 0.79 st	f			
#3	Device 2	363.00'	24.0" x 24.0"	' Horiz. Orifice/G	Grate C= 0.600			
			Limited to we	eir flow at low hea	ads			

Primary OutFlow Max=0.30 cfs @ 22.38 hrs HW=363.05' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

-2=Culvert (Passes 0.30 cfs of 4.71 cfs potential flow)
-3=Orifice/Grate (Weir Controls 0.30 cfs @ 0.74 fps)

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Page 83

Summary for Pond 22P: Basin 6

Inflow Area = 3.020 ac, 30.13% Impervious, Inflow Depth = 1.84" for 100-Year event

Inflow = 3.02 cfs @ 12.58 hrs, Volume= 0.463 af

Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 3.00 hrs, Volume = 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 458.73' @ 26.20 hrs Surf.Area= 9,980 sf Storage= 20,147 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inv	ert Ava	il.Storage	Storage D	Description	
#1	456.	00'	63,000 cf	Custom 9	Stage Data (Pr	ismatic) Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)		c.Store ic-feet)	Cum.Store (cubic-feet)	
456.0	-	4,800		0	0	
462.0)()	16,200		63,000	63,000	
Device	Routing	lr	nvert Out	tlet Devices		
#1	Primary	46	Hea	ad (feet) 0.3	20 0.40 0.60	road-Crested Rectangular Weir 0.80 1.00 1.20 1.40 1.60
			Co	ef. (Enalish)) 2.49 2.56 2.	.70

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=456.00' (Free Discharge) 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Page 84

Summary for Pond 24P: Basin 7

4.260 ac, 27.00% Impervious, Inflow Depth = 1.59" for 100-Year event Inflow Area =

5.12 cfs @ 12.25 hrs, Volume= 0.563 af Inflow

0.000 af, Atten= 100%, Lag= 0.0 min 0.00 cfs @ 3.00 hrs, Volume= Outflow

0.00 cfs @ 3.00 hrs, Volume= 0.000 af Primary

Routing by Stor-Ind method, Time Span= 3.00-40.00 hrs, dt= 0.05 hrs Peak Elev= 310.26' @ 24.95 hrs Surf.Area= 7,819 sf Storage= 24,526 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Avail Storage Storage Description

Center-of-Mass det. time= (not calculated: no outflow)

Invert

Volume

volume	mve	rt Avaii.Sto	rage Storage	Description			
#1	305.0	0' 63,39	22 cf Custom	Stage Data (Pris	smatic) Listed below (Recalc)		
Elevation	on s	Surf.Area	Inc.Store	Cum.Store			
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
305.0	00	1,690	0	0			
306.0	00	2,798	2,244	2,244			
308.0	00	5,005	7,803	10,047			
310.0	00	7,465	12,470	22,517			
312.0	00	10,160	17,625	40,142			
314.0	00	13,090	23,250	63,392			
Device	Routing	Invert	Outlet Devices	s			
#1	Primary	313.00'	10.0' long x 1	0.0' breadth Bro	oad-Crested Rectangular Weir		
	•		Head (feet) 0	.20 0.40 0.60 0	.80 1.00 1.20 1.40 1.60		
			Coef. (English) 2.49 2.56 2.7	0 2.69 2.68 2.69 2.67 2.64		
#2	Primary	306.00'	12.0" Round Culvert L= 168.0' Ke= 0.500				
			Inlet / Outlet Ir	nvert= 306.00' / 3	304.30' S= 0.0101 '/' Cc= 0.900		
			n= 0.013, Flo	w Area= 0.79 sf			
#3	Device 2	312.00'		Horiz. Orifice/Gr			
			Limited to wei	r flow at low head	at the second of		

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=305.00' (Free Discharge)

-1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

2=Culvert (Controls 0.00 cfs)

3=Orifice/Grate (Controls 0.00 cfs)